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AUTHOR McGinnis, J. Randy
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ABSTRACT

Many teachers and educators faced with the task of teaching in a multicultural classroom and subsequently the responsibility of creating an environment that is conducive for all students' learning, are seeking advice from a variety of reliable sources. One such source that may be looked upon in the future to share their insights regarding this subject are the teachers of a culturally diverse middle school in Georgia. This report describes the social contexts of an in-depth interpretative multicultural study that examines the teaching practices of two white middle school science teachers within this school. The document partitions into three sections: section one focuses on a historical and demographic analysis of the contextual levels; section two presents culturally diverse student voices from the study grouped under analytic categories that relate to multicultural considerations; and section three discusses insights resulting from the use of a social contextual framework in conducting multicultural research. (ZWH)

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Listening to Diverse Students in an Historically Racist Region: A Social Contextual Study of Science Teaching

by

J. Randy McGinnis
The Science Teaching Center
2226 Benjamin
University of Maryland at College Park
College Park, MD 20742
(301) 405-6234
jm250@umail.umd.edu

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Abstract

The purpose of this study was to provide a social contextual interpretation of science teaching of two white teachers in an urban multicultural middle school situated in the American Deep South. The theoretical reference used is social contextual, a reference advocated by a growing number of risk taking science education researchers. Insights emerging from the study are intended to support critical reflection on the part of the science teachers practicing in that context and to others who see application in different contexts. The two salient assertions made is that culturally diverse students schooling in a context historically associated with racism directed toward African-Americans value the uniqueness of a multicultural school environment and they are sensitive to detect teacher attitudes and actions that could be interpreted as discriminatory. Implications for science teacher practices are discussed.

Introduction

This paper contains a description of the social contexts of an in-depth interpretative multicultural research study conducted in 1992 in a region of the United States historically associated with racism directed toward African-Americans, The Deep South (McGinnis, 1992). This in-depth, qualitative research study examined the teaching practices of two white middle school science teachers, pseudonymous Mrs. Guide and Mr. Green, who taught in classrooms characterized by exceptional student cultural diversity. Student interviews were conducted throughout the study to add the learner's voice to the pool of data from which interpretations could be made of the observed science teaching.

A social contextual frame of reference takes as its focus social or cultural factors affecting science education (Charron, 1991). This type of research orientation is advocated by researchers whose primary interest is in understanding more fully the actions of participants within their "local cultures" (Charron, 1987,1991; Cole & Griffin, 1977). In addition, Ogbu (1981) argues that through the use of multilevel interpretative approaches in education, researchers present policy makers different types of information which would assist them in improving educational practice.

The emphasis in this paper is in examining the contextual levels in which the data collection site, pseudonymous World Middle School (WMS), is embedded for multicultural implications. Organizationally, this paper is organized in three sections. Section One focuses on a historical and demographic analysis of the contextual levels. Section Two presents culturally diverse student voices from the study grouped under analytic categories that relate to multicultural considerations. Section Three discusses insights resulting from the use of a social contextual framework in conducting multicultural research.

Section One

Background of the State

History

The research site was situated in one of the southeastern states, Georgia, known for its historical tensions between two ethnic groups, White and African American. During the Civil War (1861-1865), the state was a member of the Confederacy which fought to maintain the right to legally sanction the holding of slaves. This historically connection to the Confederacy is manifested in present day Georgia in many ways. One particular example is the fact that in 1956 Georgia's legislature voted to adopt a new state flag which includes the Confederacy battle flag. It is generally believed that the inclusion of the Confederacy battle flag in the state's flag was a symbolic show of defiance to a monumental decision made concerning the population of the nation's public schools: the 1954 Supreme Court's decision in Brown v. Topeka Board of Education to end segregation in the nation's school along racial lines.

But times are changing. The recently elected governor of the state recently called for a return to the pre-1956 state flag that does not contain the Confederacy battle flag. His decision has drawn criticism, but the major newspaper in the state, the Atlanta Constitution/Journal, and influential members of the business community have publicly supported the change. It is speculated that the change will be made eventually by the legislature after a contentious debate. With the 1996 Olympics coming to the state, the proposal has been supported as a sign indicating that the state values cultural pluralism and is international in its outlook.

Population

The 1990 census reports Georgia's population to be 6,478,216 (an increase of 19% from 1980). The percentage of

the state residents born in the United States declined, down from 70% in 1980 to 64% in 1990. One hundred seventy thousand state citizens were born in other countries, and 280,000 speak a language other than English at home (4.7% of the state's population). Whites constituted 70% of the state's population, African Americans 27%, Hispanics 1.6%, Asians 1.1%, and Native American, Eskimo, Aleut 0.19%. The faster growing segments of the state's newest residents were Hispanics and Asians. Table 1 contains a summary of the history and population of the state.

More detailed data of the state's cultural diversity was reported in the state's ancestry list. These data are reported in Table 2. The data document the representation of the world's ethnic population in the state's population.

Other indicators attest to the cultural diversity of the state. For example, a comparison of the enrollment at the state's public colleges and universities between 1981 and 1990 revealed the following changes: Women increased 47% (to 99,405), African Americans increased 48% (to 28,735), Hispanics increased 101% (to 2,180), Asian-Americans increased 314% (to 4,601), Internationally-born increased 19% (to 3,868), while all students increased 37% (to 180,447) (Atlanta Constitution, 10/6/91, G2, source: Board of Regents).

During the research period, the major newspaper (Atlanta Constitution) kept the subject of cultural diversity in the public's eye. A sampling of those articles with a short summary are provided for the reader's inspection:

Table 1

Background of State: History and Population

History

Member of Confederacy. Slave state.
New Flag with Battle Flag Emblem Approved by State Legislature in 1956.
Current governor, major businesses, and major newspaper support replacing state flag with pre-1956 flag that does not contain Confederacy Battle emblem.

Population

Total Population:	6,478,216
Internationally Born:	170,000
Number Who Speak A Language Other Than English At Home:	280,000

Ethnic Breakdown (By Percent)

White	70%
African American	27%
Hispanics	1.6%
Asians	1.1%
American Indian, Eskimo, Aleut	0.19%

Fastest growing population groups (by percent): Hispanic and Asian

Source: 1990 U.S. Census

Table 2

1990 Census Ancestry List for Research State

Group	Number
European	
Alsatian	155
Austrian	9,424
Basque	128
Belgian	3,427
British	39,724
Cypriot	55
Celtic	10,404
Danish	112,322
English	889,760
Finnish	4,975
French	155,250
German	810,861
Greek	14,795
Icelandic	353
Irish	970,752
Italian	112,478
Luxembourger	192
Maltese	182
Manx	85
Norwegian	21,388
Portuguese	4,925
Scandinavian	6,978
Scotch-Irish	192,187
Scottish	141,833
Swedish	39,612
Swiss	9,210
Welsh	37,811
Albanian	202
Bulgarian	205
Carpath Russian	10
Croatian	9,651
Czech	7,220
Czechoslovakian	2,817
Estonian	235
European	14,216
German Russian	59
Hungarian	13,418
Latvian	1,035
Lithuanian	6,751
Macedonian	74
Polish	67,171
Rom	30
Romani	3,850
Russian	29,235
Serbian	558
Slavic	755
Slovak	13,110

Group	Number
European (con't)	
Slovene	726
Soviet Union	65
Ukrainian	4,967
Yugoslavian	1,317
Other European	3,864
Total	**3,772,124**
West Indian (excluding Hispanic groups)	
Bahamiann	452
Barbadian	287
Belizean	63
Bermudan	203
British West Indies	341
Dutch West Indies	600
Haitiann	1,183
Jamaican	6,262
Trinidad & Tobagoan	616
U.S. Virgin Islander	213
West Indian	2,064
Other West Indian	41
Total	**12,325**
Central and South America	
Brazilian	742
Guyanese	530
Other Central and South American	7
Total	**1,279**
North Africa and Southwest Asia	
Algerian	133
Arab	1,196
Armenian	1,122
Assyrian	101
Egyptian	1,043
Iranian	3,279
Iraqi	90
Israeli	415
Jordanian	300
Lebanese	5,792
Middle Eastern	82
Moroccan	89
Palestinian	420
Saudi Arabian	45

Table 2 (con't)

Group	Number
North Africa and Southwest Asia (con't)	
Syrian	1,032
Turkish	1,478
Yemeni	8
Other North African and Southwest Asian	195
Total	**16,820**
Sub-Saharan Africa	
African	10,212
Cape Verdean	204
Ethiopian	1,378
Ghanian	531
Kenyan	134
Liberian	563
Nigerian	5,040
Sierra Leonean	146
South African	700
Sudanese	8
Ugandan	143
African, not classified elsewhere	931
Total	**19,990**
Pacific	
Australian	1,065
N. Zealander	134
Total	**1,199**
North America	
Acadian	7,893
American	804,672
Canadian	6,551
French Canadian	20,430
Pennsylvania German	1,027
United States	31,997
Other North American Groups	533
Total	**873,103**
Other	
Other groups not classified elsewhere	988,776
Unclassified or not reported	1,031,418
Total	**2,020,194**

Cross-cultural police training: It's not a state mandate, but some agencies offer it

Summary:

The article reports that while the police departments in the state are not a leader in training police officers to understand other cultures, such as "Asians, blacks, gays, and the poor" some of the state's counties (the state had 159 counties, 5 of which are considered to make up the Metro Area of the state capital) were instituting cross-cultural workshops. The goal of the trainers was to "temper attitudes" instead of changing the attitudes of the police officers. (6/21/92, D6)

Young people paint bleak picture of U.S. race relations, survey says

Summary:
The article reported a racial survey of the People for the American Way (1,170 young people aged 15 to 25) which suggested "a gloomy assessment of contemporary race relations." The reports of feeling that relations between ethnic groups were generally bad were the following: 48% of the Whites, 57% of the African Americans, and 49% of the Hispanics. The conclusion of the article was that while students have experienced more interracial contact than any previous generation in this country, most were not able to extend positive feelings about individuals of another ethnic group to the group as a whole. (5/4/92)

Attendance Mark Falls

Summary:
This sports article reported in a discussion on the increase in attendance for the local major league baseball team that for the first time the game had been broadcast in Spanish in the state on a local Spanish speaking radio station. The

station had agreed to broadcast 21 more games in Spanish the next year. (4/13/92)

A 'Unilateral' Miscue

Summary:

The article reported on the state's Spelling Bee Contest. The winner was an eleven-year-old female Chinese American. Her sister had been the state's spelling bee second runner up in 1990, and the first runner up in 1991. (3/6/92)

Immigrant Ports Of Entry

Summary:

This article reported that while African Americans had fallen below 50% of the total country's minority population, the state's capital still was a mecca for African Americans. Other cities, such as New York, Los Angeles, Chicago, Houston, Miami/Fort Lauderdale were contrasted as having a greater representation of many ethnic groups. (4/7/92, A2)

Feminism vs. Multiculturalism

Summary:

This editorial made the argument that some culturally diverse ethnic groups in the US had values which threatened feminism in this country. According to the author, the danger of multiculturalism was if out of deference to other cultural values we started to adopt them as part of our institutions instead of simply being sensitive to them. (4/4/92, A21)

Multiculturalism's Aims

Summary:

This letter to the editor was in response to the "Feminism vs. Multiculturalism" article. The reader made the counter argument that the primary benefit of multiculturalism was that it helps one think about the world critically. Multiculturalism was not an attack on feminism. (4/12/92)

America In Search Of Itself

Summary:

This editorial argued that the current debate concerning multiculturalism had neglected consideration of the different religions involved. The writer observed that the tension between "assimilationism" and pluralism has been continuous in American history. Our future would require us to begin a dialogue across religions. (7/4/92, A19)

Background of County

The background information for pseudonymous "Independence County" came from Growing Independence County: Changes and Challenges (Bentley & Bachtel, 1990).

History

Independence County was founded in 1818 on land surrendered by Native Americans, the Creek and the Cherokee. Independence County was the fiftieth county to be organized in the state (currently there are 159 recognized counties in the state). In 1861, the three representatives from Independence County voted not to secede from the Union. The final vote passed 208 to 89.

Following the war, the economy of Independence County was devastated. Cotton became the dominant crop and Independence County became one of the largest cotton producing counties in the state.

The first railroad entered Independence County in 1871. The first railroad reaching Little Town was built in 1891. In 1924, the first road was paved in Independence County.

The earliest industries in the county were tanneries and factories manufacturing horse collars and horse saddles. At their peak levels, they employed over 2,000 workers.

Geographically, Independence County covers 436.5 square miles which makes it the fiftieth largest county in the state. The county's domestic water needs are met from a reservoir on an impounded river.

Population

Those who have chosen to live in Independence county will enjoy life on the high end of any demographic measure of American life. ([Independent] Guides, 1991, p.10)

Independence County became urbanized. Its population increased by 1,106.6 percent between 1930 and 1988. This contrasts with 118 percent for the state as a whole. Since 1980, Independence County has been the fastest-growing county in the state. Eighty-three percent of the increase was due to in-migration effect. Expectations are that for the foreseeable future Independence County's population will continue to grow.

The percentage of African Americans in Independence County decreased precipitously. In 1930 it constituted 12% of the county's population; by 1980 it dropped to 2.5% (African Americans constituted 27% of the state's population). The percentage decrease is explained primarily by the large in-migration was by Whites.

In 1990, the median household income of single, or unrelated people living under the same roof was $43,518. This compared with $29,021 in the state. The median household income for family households was $48,000. This compared with $33,529 for the state.

In 1988 the African American community in Independence County experienced a high suicide rate of 33.5 per 100,000, which contrasts with the state's average for African Americans of 8.3 in 100,000. The suicide rate for Whites rate reported in 1988 was slightly higher than the state's average for Whites: 17.6 per 100,000, as compared to 15.2 per 100,000.

Table 3 contains a summary of the history and population of the county.

Table 3

Background of County: County History and Population

History	
Year Founded	1818
Original Inhabitants	
Native American (Creek, Cherokee)	
First Railroad	1871
First Paved Road	1924
Area	436.5
acres	
County ranking by size	50th
out of 159	
Population	
Percent Increase between 1930 and 1980	1,106.6%
Percent of Increase due to in-migration	83%
Percent of Population African American (1930)	12%
Percent of Population African American (1980)	2.5%
Median Household Income Compared with State's	$48,000/$29,021

Background of The School System

The Georgia County Guide (Bachtel, 1990), A Newcomer's Guide to the Independence County Public Schools (GCPS Office of Informational Services, 1991), Your Independence Guide, 1991-92 Edition (Independence Guide, 1991), and a Special Edition of Independence Weekly News (Weekly News, Friday, July 2, 1976) provided statistical and qualitative information on the school system in Independence County.

History

The common school system was inaugurated in Independence County in 1871. School began in November after all the cotton was picked. It ran until the planting and plowing arrived in February. Schools then closed and reopened in July or August before closing again. Previous to the inauguration of the common school system, private schools served the White population. No schools existed for African slaves and their descendants before the Civil War. A state legislative act of 1829 had made teaching "any slave, negro, or free person of color to read or write" a punishable offense. (Independence Weekly News, Friday, July 2, 1976, p. 16).

Population

Schools And Enrollment: In the 1988-1989 school year (the most current year for which extensive data are available), the Independence school system consisted of 58 schools with a total enrollment of 62,290. Independence Schools had 33 elementary schools, 13 middle schools, and 11 high schools. The passage of a school bond in 1990 will allow the school system to open eight new schools and renovate several existing schools.

In the 1988-1989 school year, the average daily attendance was 94.5%. Between 1982 and 1988 the population increased by 20,000 students. School enrollments in 1993 are projected to exceed over 75,000. Reasons provided by A

Newcomer's Guide to the Independence County Public Schools for the growth in the student enrollment were the following:

> [T]he school system's reputation for academic excellence, active parental involvement and sound fiscal management, and the attractive quality of life in prosperous Independence County (p.1).

Academic Achievement of Students: The 1992 Iowa Basic Skills Test results for Independence Public Schools were the following: for grade 8 the reading percentile was 73, compared to state percentile of 56, and the math percentile was 68, compared to the state percentile of 55; for grade 11 the reading percentile was 56, compared to the state percentile of 46; for grade 11, the math percentile was 70, compared to state percentile of 57. Approximately 80% of the high school students took the Scholastic Aptitude Test (SAT). Independence students in the top 20% of their class scored above the national average on the SAT; the average score for all Independence students was near the national average. Over 70% of the high school graduates were accepted into college in 1989.

The percentage of total academic failures in the 1988-89 school year was skewed heavily toward the high school level in Independence County; it was 5.8% on the elementary level, 5.6% on the middle school level, but 88.6% on the high school level.

Teachers: During the 1988-89 school year, 3279 teachers were employed by the Independence school system. 50.7% of them had master's degrees or higher. In 1991, that percentage had increased to 58% with an average teaching experience of ten years and an average salary of over $33,000. The beginning teacher salary in 1988-89 was $21,916, the second highest beginning salary reported in the state. The 1987-88 cost per pupil was $3,127.47.

Mission Statement: In 1990, the Independence school district hired a new Superintendent of Schools who soon established a planning committee to focus the district on the

challenges of the 1990s. This 28 member Strategic Planning Committee created a mission statement for the system:

> The mission of the Independence Public Schools, the leading partner in a total community education partnership, is to guarantee individual student success in creating and exercising life choices through performance-based personalized learning experiences; educational experiences of choice; full utilization of technology; mutual accountability of parents, educators, and learners; and by fully integrating all the resources of our richly diverse community [emphasis added]. (Independence Guide, 1991, p.27])

Philosophy Statement For Science Education: The philosophy statement for science education of the Independence County Public Schools, taken from the curriculum guide of the Independence School System, emphasized the development of integrated process skills throughout the middle school and high school years. The goal of science education was to develop scientifically literate students who could appreciate and understand the scientific endeavor. Science teachers should strive to enhance students ability to think, create and analyze in a logical manner, and promote opportunities to apply learning toward skill development in marketable skills and encourage further study of science. See Appendix D for a complete copy of Independence County Public School's Philosophy of Science Education statement.

Goals of Middle School Science: The goal of the middle school science curriculum, a separate statement in the curriculum guide of the Independence School System, emphasized the needs and learning styles [emphasis added] of the early adolescent. Teaching styles recommended to achieve that goal were hands-on laboratory/field activities, reading, writing, and discussion experiences. Both the body of knowledge and process skills would aid the student in

transition between educational and career goals. Safety should be emphasized. The application of both skills and content to personal life situations [emphasis added] should be emphasized. Table 4 summarizes the history and population changes of the school system.

Background of Little Town

The research site school was located in pseudonymous "Little Town," which covered a radius of one and a half miles in Independence County. Little Town was located in the western most portion of Independence County. Background information for Little Town came from Your Guide to Little Town and Hill Park, 1991-92 Edition (Independence Guides, 1991), Quest for City of the Year (Weekly News, April 14, 1991), City of Little Town 1984-1994 Land Use Plan (Precision Planning, Inc, 1990), a Special Edition of The Independent Weekly News, (Friday, July 2, 1976), 1992 Little Town History Calendar (Little School Middle School History Project, 1992), information provided in personal communication with the Little Town Assistant Clerk (field notes, 5/22/92), and anecdotal information provided by a retired middle school teacher and life-long local community member, pseudonymous "Mrs Rebecca Hayes" (personal document and interview, 6/9/92).

History

Little Town traces its roots back to 1821 when settlers in ox carts and covered wagons first came to the western end of Independence County. These people were of Scotch-Irish descent, and they moved to the area from their homes in

Table 4

Background of School System: History and Population

History	
Year Common School System Was Inaugurated	1871
Population	
Students	
School enrollment (1988-1989)	62,290
Average Daily Attendance (percent)	94.5
Iowa Reading Skills, Grade 8 compared with state Grade 8 (percentile)	73 to 56
Iowa Math Skills, Grade 8 compared with state Grade 8 (percentile)	68 to 55
High School Graduates Accepted into College	70
Percent of Total (grades 1 to 12) Academic Failures on Elementary Level	5.8
Percent of Total Academic Failure on Middle School Level	5.6
Percent of Total Academic Failure on High School Level	88.6
Teachers	
Total Number (1988-1989)	3279
Percent with Master Degrees or Higher (1991)	58
Ranking of Beginning Teacher Salary in State (1988-1989)	2nd

neighboring states which their ancestors orginally settled in the 1700s. They came to collect their lottery land taken from the Creek and Cherokee peoples for as little as $1 per acre. These settlers found mostly forest land, rich in hardwoods and pines. The land was cleared for farming and the trees were used for constructing homes. Some of the pioneers had African slaves, but not many. The railroad came in 1893 and a village was built up around the depot. The village was named Little Town but was not chartered until July 27, 1910.

In the 1920s, the village faced calamitous events: first a fire destroyed most of the business section and then boll weevils destroyed the cotton crop. The nation itself fell into the Great Depression in 1929. By mid-century the once thriving community was reduced to two stores and a post office. However, during the 1950s, the neighboring state capital boomed and new homes were built in Little Town for commuting workers. Shopping centers, new roads, new schools and new industries followed the people to Little Town.

A resident of the community, Mrs Rebecca Hayes, reminisced about growing up in Little Town in the 1930s and 1940s:

> I was born in May, 1936, at my home in Little Town. The doctor made house calls. The area was very rural. Many people were farmers growing cotton and corn. Every family had a large garden, pigs, cattle, and chickens. (document collected, 6/9/92)

In a formal interview at the research site school, Mrs Hayes added

> My parents were from the community. They were very civic minded. Father was one of the first councilmen of the city. He was active in the Lion's Club and the church. When the city was

rural, everything revolved around the family, the church, and the community (interview, 6/9/92).

Initially, there was little interest in re-incorporating the city. However, a two-year drought dried up all but the deepest private wells. Needing water, the community sought incorporation so that its leaders could negotiate to buy water from an adjacent county. Shortly after incorporating in 1955, the city contracted for water from Independence County instead of from the neighboring county. Community members then wanted police protection.

Mrs Rebecca Hayes recalls those times with detail:

> The city was re-chartered in 1955 and the first policeman hired. Mr father was on the city council. Growth in the area began. The town (known now as Old Town Little Town) had been located near the Seaboard Railroad . [Steve Williams] built a cluster of buildings along [the] highway near [the research site] Middle School. It housed [DaBelles] Beauty Shop, a barbershop, office of Dr [Grant] and Fountain Drugs. Original Town [the original downtown] struggled along with [Philip's] grocery and some empty buildings ....Civic minded citizens utilized the old cannery building (behind the research site Middle School) to open the first public library. In 1971, the first major chain grocery store--Winn Dixie--opened at Little Town Square. Little Town was again spreading out. [Bev's] Barbeque (sic) opened in 1972 and was located between Little Town and [a neighboring] community....I don't recall the years, but [two community members] began to revive "Original Town" Little Town and develop it into a crafts and arts center. In 1973, the first Little Town Festival was held. Little Town was going to be on the map (document, 6/9/92)!

In 1991, in a poll of its readers, Independence County's newspaper reported that Little Town was voted Independence County's prettiest town (Weekly News, Sunday, April 14, 1991). That same year, Little Town was recognized as runner up in the state "City of the Year" contest (Little School Middle School History Project, 1992).

Population

From its beginnings, Little Town has been a crossroads of cultures, peopled initially by Creek and Cherokee Indians, settlers from many European countries, and African slaves. In the 1980s and 1990s, a new wave of citizens came to call the Little Town area home, including new suburbanites from [the neighboring state capital] and other U.S. cities and new immigrants from Asia and elsewhere. (The Little Town Middle School History Project, 1992, p.1)

In the 1970s, the suburban growth in an adjacent county to the south spilled over into Little Town. The community experienced its peak growth in the 1980s and is thought to be leveling off (Independence Guides, 1991).

Mrs Rebecca Hayes was present during the great population growth in Little Town and documented her thoughts for this study:

> People began to move from the [capital] city area into Independent County in the early 1970's (sic) and this influx necessitated many changes and new facilities-
> 1976 - K Mart and Kroger opened
> 1977 - McDonald's opened near K Mart
> 1982 - city park was dedicated near downtown
> 1983 - Burger King opened
> 1984 - Independence Place Mall
> 1987 - new police facility
> Little Town was growing rapidly and Independence County was rated for several years as the fastest growing county in the nation.

Up to the 1980s, the population had been [W]hite U.S. citizens. Things began to change and we rapidly began to look like the United Nations....(document, 6/9/92).

Data from the City of Little Town Land Use Plan (1990) revealed that between 1980 and 1988 the population of Little Town increased by 91.2% (from 3,765 to 7,200). A 5.2% increase is projected `90s. The Little Town Assistant City Clerk (personal communication, May 22, 1992), reported the city's 1990 census was 9,301. Between 1988 and 1990, the city grew by 14%.

Table 5 contains a summary of the history and population of the city.

Background of The Middle School

Background information for the research site middle school, pseudonymous "World Middle School" (WMS), came from a Special Edition of The Independent Weekly News, (Weekly News, Friday, July 2, 1976), Quest for City of the Year (Weekly News, April 14, 1991), 1992 Little Town History Calendar (Little Town Middle School History Project, 1992), and personal communication with key informants knowledgeable about World Middle School: the seventh grade life science teacher, Mrs Guide (interview, 3/6/92), the eighth grade earth science teacher, Mr Green (interview, 3/6/92), the school admission's officer (field notes, 5/21/92), and aretired teacher and life-long community member, Mrs Rebecca Hayes (document and interview, 6/9/92).

History

The history of World Middle School was documented in written surveys of dates and events but brought to life through the first hand reminiscences of individuals intimately associated with it. A flavor of both of those styles are reported in this section.

Table 5

Background of City "Little Town" History and Population

History

First Entered by Scottish-Irish Settlers and African Slaves	1821
First Railroad	1893
Town Chartered	1910
Period of Decline	1920-1950
Period of Revival	1950-
present	

Population

Decade of Peak Growth Rate	1980s
Percent Increase between 1980-1988	91.2%
Projected Growth Rate 1990-2000	5.2%
1990 Population	9301
Growth Rate Between 1988-1990	14.0%

23

A Special Edition of The [Independent] Weekly News, (Friday, July 2, 1976) reported that the earliest school that formed in Little Town's present area was Center Academy. It opened in 1839 and charged tuition. Subsequently other tuition-free schools were opened which operated under poor state funds.

In the early 1900s, three schools were open in the Little Town area. Mrs Rebecca Hayes remembered one school in the 1940s:

> The only school in the area was [the school that eventually became World Middle School] (grades 1-11; 12 added in 1954), with enrollment around 350 in the mid 1940's (sic). When I first entered school, we had electricity--but not indoor plumbing. Water was brought in buckets from across [the highway] for drinking. Pit toilets were used--and the smell was horrible. Each classroom had a pot bellied coal stove for heat. The only air conditioning was from open windows....Generally, there was only one class[room] per grade level. If there were too many students, there would be a split class (i.e. 3rd grade on one side and 4th grade on the other side of the classroom). Students brought their own lunch which usually consisted of a biscuit left from breakfast filled with fried chicken, ham, bacon, sausage, or tenderloin. Often they had a baked sweet potato, an apple, a slice of pound cake or tea cakes. The same little brown bag was used until the grease caused a hole in the bag. My mother [named omitted] helped open the first lunchroom about 1946. The cost of the lunch was 10 cents and she carried most of the food to serve from our home. Families did not have television--just radios. Life revolved around the family, school and church.

Box suppers, etc. were held often as fund raisers. (document, 6/9/92)

In the 1992 Little Town History Calendar, above the month October, a concise history of World Middle School was presented:

> The facility that now houses World Middle School began as a school for grades one through eight in 1932. Ten years later the school was expanded and became the Little Town High School. After World War II, the school saw much change under longtime principal J.W. B- who arrived in military uniform to take charge. The school lunchroom program began, and landscaping and plumbing were improved. Built through community efforts were a gymnasium, a canning plant, and a three-room cement block classroom building used as a home economics department. Only the gymnasium exists today and is used for community activities.
>
> Little Town High was nearly abolished in 1953 when the county school board voted to create a single high school in [the largest city in county], but this action was reversed in 1957. Until the 1950s, the state's high schools ended with eleventh grade. In 1954 Little Town High graduated its first eighteen twelfth graders, who published the first school yearbook...and a school newspaper.
>
> As the population grew in the Little Town Area, so did enrollment at Little Town, passing 1,000 in 1965. Little Town High moved to a new school in 1966, and Little Town High reverted to providing education to elementary and middle school students. As Independence County continued to grow, it became necessary to move Little Town's elementary students elsewhere, and Little Town Elementary School was opened in 1971. Since then, World Middle School has continued as an excellent

middle school and is a source of pride for members of the community.

According to Mrs Rebecca Hayes, the present World Middle School is located on the site of the Little Town School that began serving Little Town students in 1932. Her connections with the community and World Middle School facility for fifty-six years led her to offer this advice to new teachers at World Middle School:

> The changes over time have been dynamic in this school building; nothing stays the same and you should be prepared to change. That is what I would like to tell new teachers who come here. (Rebecca Hayes, interview, 6/9/92).

Population

Students: The student population of World Middle School on Monday, May 18, 1992 was exactly 1,221, according to attendance data of by the WMS's Admission's Officer on Thursday, May 21, 1992 (field notes, 5/21/92). The student population fluctuated throughout the school year on a daily basis, with changes of a few students a regular occurrence It generally stayed above 1,200, and it did not exceed 1,250.

World Middle School served students in grades 6, 7, and 8 who lived in a geographical zone determined by the county. In that zone three elementary schools fed their fifth grade graduates to World Middle School. Two of the elementary schools sent all their graduates to WMS while the other elementary school sent one-third of its graduates to WMS and the other two-thirds to a different middle school in the district. It was thought that the school district had decided to send only one-third of the graduating class of elementary school number two to WMS to more equitably balance enrollments among the middle schools in the area.

An analysis of the ethnic composition of the three elementary schools that fed World Middle School provided

information as to a major source of the cultural diversity of WMS. Table 6 contains data on the culturally diversity present in the feeder elementary schools.

While the data indicated that cultural diversity existed in all three elementary schools (none of the three schools exceeded 75% White and representatives of at least three other ethnic groups were represented to an appreciable extent), elementary school number three stood out for its representation of diverse groups. In elementary school number three, the White population was 44.4%, in contrast to the state's White percentage of 70%. Furthermore, African Americans made up 25.7% (as compared to 2.5% in the county), Asians 22.4%, Hispanics 7.0% and Native Americans 1.3% of elementary school number three's population.

An opinion held by some informants at WMS was that elementary school number three's exceptional cultural diversity resulted from both geographical proximity to the nation's interstate system which connected Independence County with the state's largest city and the availability of rental apartments adjacent to that interstate. Members of those groups who compared school systems recognized that the Independence County Public School was better than the school systems that made up the school systems elsewhere in the metropolitan area. As a result, those families tended to settle in Independence County. They also settled next to the interstate so they could relatively quickly commute into the city. It was also where many rental apartments had been constructed. Over a short time, identifiable ethnic neighborhoods had sprung up, which encouraged members of those ethnic groups to settle there. It was in that neighborhood that elementary school number 3 was situated (field notes, 3/27/92).

Another source of the international students in the district was the 195 international firms located in the county. These firms' home offices were based in 18 nations (Your Independence Guide 1991-1992, p. 21).

Table 6

Ethnic Report of World Middle School's Feeder Elementary Schools

Elementary School	Total Attendance	% White	% Hispanic	% African-American	% Asian	% Native American
Number 1	1080	74.8	5.3	8.4	10.8	.8
*Number 2	1273	71.8	4.8	12.4	10.4	.6
Number 3	1248	44.4	7.0	25.7	22.4	1.3

*Only 1/3 of 5th grade graduates are sent to WMS.

The county school system reported that the population of World Middle School, as of May 18, 1992, was 60.1% White, 17.7% African American, 15.4% Asian, 5.5% Hispanic, and 1.3% Native American. Table 7 contains a comparison of the ethnic data reported by the middle schools in Independence County. An inspection of the middle school data (n=13) reveal that WMS contained the fewest percentage of Whites on the middle school level in the Independence County School Public System. WMS contained the highest percentage per school of African Americans and Asians and the second highest percentage per school of Native American (1.3% as compared to 1.4%) and Hispanics (5.5% as compared to 6.5%). WMS's White population was 27.1% below the country's average middle school, the African American population was 11.3% higher, the Asian population was 11.7% higher, the Hispanic population was 3.5% higher, and the Native American population was 0.6 higher. This made WMS the most culturally diverse middle school in the Independence County's Public School System.

Table 8 presents the ethnic report of WMS per grade (note: ethnic data for 23 students in special education sections were unavailable to report). Ethnic minority enrollments at WMS fell from a high of 436 in sixth grade, to 407 in seventh grade, to 355 in eighth grade.

Table 7

Ethnic Report of Independence County Middle Schools

# School Attendance	% White	% Hispanic	% African-American	% Asian	% Native American	Total
Number 1	95.6	1.2	2.4	.5	.3	665
Number 2	90.2	1.5	4.8	2.6	.9	1034
Number 3	96.2	0.5	1.2	1.6	.5	1457
Number 4	94.9	1.0	2.3	1.4	.4	1117
Number 5	90.2	1.4	6.8	1.6	N/A	1174
World Middle School	60.1	5.5	17.7	15.4	1.3	1221
Number 7	74.4	2.9	16.2	4.5	2.0	1009
Number 8	92.5	.9	3.4	2.7	.5	1392
Number 9	93.4	1.0	3.6	1.4	.5	1670
Number 10	96.5	.9	2.0	.4	.2	1472
Number 11	67.8	6.5	17.0	8.1	.6	876
Number 12	80.2	3.8	9.9	5.4	.7	1329
Number 13	92.9	.8	1.0	3.9	1.4	1247
Total	87.2	2.0	6.4	3.7	.7	15663

Data current as of May 18, 1992.

30

Ethnic Report of World Middle School by Grade

Grade	% White	% Hispanic	% African-American	% Asian	% Native American	Total # Attendance
6	59.4	5.5	17.2	17.2	.7	436
7	61.4	3.9	18.2	14.5	2.0	407
8	60.4	7.0	16.6	14.6	1.4	355
Total						1198

Note: 3 sections of special education class data not available to include (n = 23)

Pseudonymous "Mrs Sally Bauer," one of two English for Speakers of Other Languages (ESOL) teachers and a four-year veteran at WMS provided further data relevant to cultural diversity (document collected, 6/2/92). In September 1991, Mrs Bauer asked her ESOL students to carry home a survey that requested data on the countries of birth for themselves and for their parents. The returned questionnaires revealed that 59 nations were named as birth places of either the 174 international students or a parent. Of WMS's student body, 14.3% were internationally born. The data indicated that the total number of countries represented in the student body of World Middle School exceeded the fifty-nine countries if it can be assumed that the 4 students who listed "Africa" for their country of birth came from different African countries reported on the list. The three most frequent international countries of birth for students were Korea (n=40), India (n=14), and Mexico (n=11). The three most frequent international countries of birth for fathers of students were Korea (n=43), India (n=31), and Vietnam (n=21). The three most frequent international countries of birth for mothers of students were Korea (n=49), India (n=26), and Vietnam (n=23). See Table 9.

Mrs Rebecca Hayes was teaching at WMS during the influx of international students in the 1980s. In a document she prepared for this study, she reflected back on that experience:

Table 9
Countries of Birth of International Student and Their Parents at World Middle School

Country	Student	Father	Mother
*Africa	4	8	6
Austria	0	2	0
Bangladesh	1	1	3
Barbados	0	0	1
Bolivia	0	0	1
Bulgaria	0	1	0
Cambodia	6	11	11
China	2	7	10
Colombia	3	6	6
Costa Rica	1	1	1
Cuba	0	3	3
Denmark	0	0	1
Dominican Rep.	0	1	0
El Salvador	3	2	3
England	3	2	3
France	0	0	2
Germany	8	6	9
Greece	0	2	2
Guatemala	0	1	0
Guyana	4	7	6
Honduras	0	2	2
Hong Kong	0	1	0
Hungary	0	1	0
India	14	31	26
Iran	1	6	5
Italy	0	1	1
Israel	2	2	2
Jamaica	1	1	1
Japan	4	4	3
Korea	40	43	49
Laos	5	8	7
Lebanon	1	1	1
Liberia	0	3	2
Malaysia	0	0	1
Manila	1	0	0
Mexico	11	15	13
Morocco	0	0	1
Nigeria	0	1	0
Pakistan	6	4	3
Panama	1	2	3
Peru	1	3	3
Philippines	2	4	4
Poland	1	2	2
Puerto Rico	3	5	2

Table 9 (con't)

Rumania	6	6	6
Russia	2	6	3
Scotland	0	3	0
Spain	0	1	0
Swaziland	3	1	3
Sweden	2	2	3
Switzerland	1	0	2
Syria	0	0	1
Taiwan	6	8	8
Thailand	5	5	6
Turkey	1	2	1
Uruguay	1	1	3
Venezuela	1	3	3
Vietnam	17	21	23
Yugoslavia	0	1	0
Total (n=59)	174	261	247

* Continent identified by students and/or parents as country-of-origin.

Up to the 1980s, the population had been white U.S. citizens [at WMS]. Things began to change and we rapidly began to look like the United Nations. [World Middle School] was definitely affected. I recall some of the first students to enroll were three Cambodian brothers. The students were fascinated with the three brothers who spoke very little English. At first they were very shy, but soon the students made them feel quite at home. As a teacher, I found it quite interesting to watch the three boys learn so rapidly....The influx of students from different nationalities continued and I feel they were accepted well by World Middle students. "The world" had truly come to the little town of Little Town. These students provided [us locals] with new cultural knowledge. (document, 6/9/92)

In a formal interview on June 6, 1992, Mrs Hayes was asked to elaborate on her perspective of the influx of the international students at WMS:

> Well, I think it was very interesting to have the different students come in. Because, as I mentioned earlier, the city was very rural, everyone was either a friend or a relative, and most people were relatives. There were very few people who were transient in the area. As the population began to grow, at first we were just getting an influx of people from [the neighboring large city] area, then they came from other states, then from other countries! And at first, I think teachers were overwhelmed with the responsibility of trying to reach students who did not speak English. The students were fascinated because this was a new experience for them! And I think our students at The World Middle School were very impressed because the students coming from other countries were oftentimes deprived and it was, they were very eager to learn. And it was something new for them. And it was just amazing--the rapidity

with which they did learn. I felt that teachers often felt inadequate to meet the needs of these new students, but I think they coped very well with the situation. There were times I felt maybe our own native students were being a little slighted because it took so much time with the new students. Especially as the large numbers of new students came into the area. It would require a good deal of extra time for preparation to meet the needs of the students. But I think it has been wonderful but the world and social studies have come alive in this school. I think it has been a real plus and given the students such a wide cultural background. And I think most of these students, as they have felt comfortable have shared much of their background and some of them I have noticed really want to establish their being here in a part of the United States, this state, this city, and do not want to talk about their past experiences. For instance, our first students who came over were from Cambodia. They had had a terrible experience on their boat trip....[T]he Cambodians were accepted well and I think other new students have been. I do not recall an instance when a student was verbally abused in any way or looked down upon because he was a different nationality. (interview, 6/9/92).

During the study, other perspectives on the culturally diverse population of WMS were heard. Mrs Guide, the seventh grade life science teacher who volunteered to participate in this study, recalled her first year teaching at WMS:

> In the five years I have been here [at WMS], it has become much more diverse. In that, in the first year I taught, I may have had one to three culturally diverse students [per class], while now a little more than one-third are

foreign or immigrants to this country. (interview, 3/6/92).

> [W]hen I started five years ago the population was not that diverse. The African-American population was less than four percent. (discussion, 5/4/92).

Mr Green, the eighth grade earth science teacher who volunteered to participate in this study, described the WMS population in this manner:

> Our school is the most culturally diverse school in this county. I know that when this county is mentioned, immediately what comes to mind is upper middle class to upper class White students with only one minority student present for every 100 or every 200. Here at World Middle School, we have between 40 and 50% minority. We have 62 different languages that are spoken and a few more countries than that are represented. Practically, if you name a country we probably have a student from that country here at World Middle School...The list just goes on and on. We like to consider ourselves being the forerunner because all the other student populations in a four or five years are going to be like ours, rather than ours changing to the all white population. (interview, 3/6/92)

Mr Green, in a discussion with Mrs Guide and the researcher, made these remarks relevant to the population of World Middle School:

> Mr Green: [The assistant principal] more accurately warned me of the population more than anything else [when he interviewed in 1991 for the teaching position at WMS].

> Mrs Guide: What did she say to you? I am curious.
>
> Mr Green: She just said the student population here is some 40% minority and out of those minorities you have sixty-seven countries represented. You have got some from middle to upper middle class neighborhoods, but the majority are not from middle to upper middle class neighborhoods. Apartments or duplexes. Probably 80% to 90% percent of our student population lives in rented dwelling .... (discussion, 5/4/92)

Mrs Guide's student teacher during the study period, pseudonymous "Miss Stacy Fields," described her first impressions of WMS's population:

> I thought it would be a lot like my middle school. Which was your typical middle class, white, suburban school. I was not aware this area was so diverse. I had no idea. When we walked through the door they told us the first day there was 55 to 60 plus nations represented at this school. I was flabbergasted. I really was. It has been a very interesting study. I have learned a lot about not only about Blacks and Whites but other cultures too. They have taught me a lot. (interview, 6/4/92)

A framed award from the governor of the state hung on a prominent wall in the office of WMS. It was presented to the school on January 18, 1990 during "International Week." It stated that WMS was "hereby recognized as an environment committed and dedicated to the highest goals of intercultural understanding" (artifact, March 27, 1992).

Teachers And Staff: All the teachers and secretarial staff at World Middle School the researcher saw during his

visits to the school from February 13, 1992 to June 9, 1992 were White females and a few White males.

The two members of the custodial staff the researcher observed were Cambodian males. In a conversation the researcher had with one of them on April 14, 1992, he learned the custodian had been in the United States since 1982 and employed at WMS for five years. He looked forward to next year when his child would attend WMS (field notes, 4/14/92).

Mrs Rebecca Hayes recalled the connection of the first three international students at WMS and a Cambodian custodian who worked at WMS:

> [T]he father [of the three Cambodian students] had served as a custodian here and he had brought his three sons, their wives, and six children. So we had three of those children here in school, one of the dads, and the grand dad as custodians here. They were real jewels. We thoroughly enjoyed meeting them, working with them; they were written up in the newspaper but they did not want to share much of their backgrounds....(interview 6/9/92).

Table 10 contains a summary of the history and population of the school.

Table 10

Background of School: History and Population of World Middle School

History

Original facility opened in 1932 that served grades 1-8.
The facility accepted students for grades 9-11 in 1942.
Grade 12 was added on in the 1950's.
First graduating senior high school class was in 1954.
Facility became an elementary school serving grades 1-8 in 1966.
Facility became solely a middle school serving grades 6-8 in 1971.

Population

Number of Students	1221
Percent international and African American	40

Section Two

Students in Mrs.Guide's and Mr. Green's science classes were interviewed in small groups throughtout the study. Analytic induction and constant comparison research interpretative techniques were used on the diverse students' verbatium reflections to form categories (Glaser & Strauss, 1967; Erikson, 1986). Analytic categories that emerged that relate to multicultural considerations are presented under each teacher's pseudonym.

Mrs Guide

Beliefs about Life Science and Cultural Diversity Considerations: Mrs Guide's seventh grade students formed opinions on whether they liked to learn life science in a multiethnic classroom and on how they liked to be taught science in that type of environment. The students' thoughts and feelings are grouped under the analytic categories It Broadens Our Perspective and Let Us Work Together.

It Broadens Our Perspective: Students consistently expressed a preference for learning life science in a multiethnic classroom. The principal reason given for that preference was that it was believed to increase their exposure to other ideas on how life science could be taught and how other ethnic groups think. Furthermore, through the experience of working with the culturally diverse in all the academic subjects (science included), White students in particular, felt that it would better prepare them for life in the greater society outside the confines of the school. Those students perceived American society to be multiethnic and they wanted to be prepared to live and work in it. The culturally diverse school was important because without the association with the culturally diverse population in the school there was the danger of becoming "racist or something." (White male, interview, 4/30/92). However, by

associating with them and learning something about their culture, that same student expressed, "you can't be discriminatory."

Student Voices:

Episode 1:

> Researcher: The student body is unique here at WMS. I see international flags and many international students in the cafeteria. What do you think about that? Is it good to go to a school like this and have such cultural diversity in your science classroom?
>
> White male: Yes. Because you can be together and learn were they came from and what kind of school they came from and what they had to do.
>
> White female: And you can learn a foreign language. I have a friend who is trying to teach me a little bit of Korean but I do not think I am catching on.
>
> White female: Plus you are associating with all this people with different backgrounds--different religions. You know, we are going to do that in the real world when you get a job and all. So it just kind of gets you prepared (interview, 4/30/92).

Episode 2:

> White female: I have no problem with different nationalities. I think it adds more to class sometimes. Sometimes when a new person comes from a foreign country they tell us about things that Mrs Guide does not know about their native countries.

White female: Sometimes it is neat to hear like what other people learn in their science classes and what they learned. Like different countries, the ethnic groups. Sometimes we have discussions and we don't have to raise our hands or anything, just talk. They will just talk about their teachers there and how they taught (interview, 4/30/92).

Episode 3:

Vietnamese American female: [Being in a multicultural environment] changes the perspective of science. Like what they think. A different ethnic group might think something different than Americans, or something like that (interview, 5/21/92).

Episode 4:

White male: I like being in a class with a bunch of different people! (interview, 5/7/92).

Episode 5:

Researcher: When do you get a chance to learn about other cultures in your science class?

White female: When you talk with them [culturally diverse students](interview, 5/7/92).

White male: Working in groups. When you work in groups you get to work with people from other countries...It is better to have groups so that you can learn more about people than

working on your own. It is more fun, too (interview, 5/7/92)!

Let Us Work Together: The analytic category that emerged from the data for how Mrs Guide's students believed they wanted to be taught in the culturally diverse environment was Let Us Work Together. Students recommended dyads and cooperative groups so that students could "communicate" and "get to know each other" (White female, interview, 5/7/92). In a school with so many culturally diverse students present, students believed there was no need to place the burden completely on the teacher to mix the groups, however. The students felt that eventually a culturally diverse person would get around to them. One student expressed that belief this way:

> But I don't know if the teacher should make sure that, you know, there is a Korean person in your group and someone from another country, too. I do not know. Eventually you will get someone (White female, 5/7/92).

Student Voices:

Episode 1:

> White male: Working in groups. When you work in groups you get to work with people from other countries (interview, 5/7/92).
>
> White female: Yeah, I think it is better to have partners. So you can, you know, ya'll can help each other, and you can even get to know a person--not talking a lot but being with them. Pairs or groups of four are ok (interview, 5/7/92).

Episode 2:

> White male: It is better to have groups so that you can learn about people than working on your own. It is more fun, too!(interview, 5/7/92).
>
> White female-You can communicate. But I don't know if the teacher should make sure that, you know, there is a Korean person in your group and someone from another country too. I do not know. Eventually you will get someone. I like working in group because I can talk, not to disturb someone (interview, 5/7/92).

Mr. Green

Beliefs about Earth Science and Cultural Diversity Considerations: Mr Green's eighth grade students formed opinions on whether they liked to learn earth science in a multiethnic classroom and on how they liked to be taught science in that type of environment. His students' thoughts and feelings are grouped under the analytic categories Everyone Is Human, The ESOL Kids Stay To Themselves, and Don't Give Me a Teacher With An Attitude.

Everyone Is Human: Mr Green's students expressed the belief that it was expected that they would study earth science in a culturally diverse classroom. After several years of studying in a multicultural school environment, they had lost the novelty effect of studying with different types of people. By eighth grade, they fully expected all types of people to be included in all the activities in the school, including earth science. They didn't mind sharing their cooperative learning groups in earth science with people of different cultures; however, they wanted to group themselves by the friendship criterion so they would not have to interact with someone they disliked. They perceived

friendships in the school as being cross-cultural, so they believed they were not being separatists in their choices for members of the cooperative learning groups.

Student Voices:

Episode 1:

> Italian American male: I mean, just having a bunch of friends makes the whole class a lot better. You almost never get cut down or anything. People are always helping you and you get to help the other people. Everyone just learns because everybody just helps everybody. It doesn't really matter to me where the other students come from. Everyone is human and I just sit with, I usually sit with a couple of my friends but I will sit next to anybody if I need to (interview, 4/30/92).

Episode 2:

> Half Korean American: What I like about people [in her earth science class] are the way they act toward me, or the way they act toward others or different races. You can't be good friends with someone because they are like you, white, and then not like someone else because they are Chinese or Black (interview, 5/21/92).

Episode 3:

> Thai female: I didn't expect it to be so culturally diverse when I came here in 6th grade (interview, 5/21/92).
>
> Half Korean American female: Before I came here I didn't care about having friends in the

5th grade. I have friends now of all cultures Black, White, Chinese (interview, 5/21/92).

Episode 4:

Half Korean American female: I don't want people placed in my group. Not really. There are people I just do not get along with. If I got stuck in a group with them, I might get to the point and haul off and hit them (interview, 5/21/92).

The ESOL Kids Stay to Themselves: In Mr Green's earth science class, his three ESOL students sat together in the back of the center row of student tables. Another international student who was frequently absent and not in the ESOL program joined them when he was present. Throughout the research period, the ESOL students were never observed to talk with other students in the earth science class. They sat with each other in every cooperative learning group activity. They even walked together to a special assembly during earth science and sat together behind the other students in their class in the large meeting room. Other students in the class noticed their separateness and formed the belief that they wanted to stay to themselves and not associate with them because the ESOL students did not make the effort to talk with others in the class.

Student Voices:

Episode 1:

Thai female: They [ESOL] kids stay to themselves. They do not come and talk with us. They basically keep to themselves (5/28/92).

Episode 2:

> Researcher: When do you get to know students of another culture in your earth science class?
>
> Half Korean American female: Usually when new students come in. They stand up and tell about themselves.
>
> Researcher: Like the Romanian student? What is his name?
>
> Half Korean American female: Romanian?
>
> Thai female: You know, the guy in the back of the room.
>
> Half Korean American female: I don't know his name (interview, 5/28/92).

Episode 3:

> Thai student: I used to be in the ESOL program for one year. I don't associate with those people. I hang around my friends now. I only have a couple of Oriental friends. The rest are White and some Black (5/28/92).

Episode 4:

> Researcher: What part of the world do the four international students who sit together in your earth science class come from?
> African American female: (shrugs her shoulders) I do not know (field notes, 3/30/92).

Don't Give Me A Teacher With An Attitude: Teachers at WMS did not reflect the ethnic background of the students. The faculty at WMS was predominately White female. An eighth grade Half Korean female and a Thai female student who

discussed the issue made it clear that they did not believe it was necessary to have a faculty that represented the diversity of cultures represented in the student body. What was necessary, however, was not to allow teachers with a prejudiced attitude be *their* teachers. Students expressed that they wanted science teachers who knew their science content, made science interesting by letting them do laboratory activities instead of forcing them to read out of the book, and gave oral tests. They also appreciated the WMS school climate that made them feel welcome to be different.

Student Voices:

Episode 1:

> Researcher: I have noticed that students are ethnically diverse here at WMS but that the teachers are not. Do you care?
>
> Thai female: I have never noticed. It would not really matter to me. I think there should be, like, a lot more guy teachers because they are not as hard as woman (sic), I don't know.
>
> Half Korean American female: I have no problem with different teachers. I hate attitudes. There is a teacher here who is All-American White. She has a Black student. Contrast with me. I like heavy metal, American stuff. The Black girl is from Africa, likes rap, Malcolm X, that kind of stuff. Well, this lady teacher probably teaches me better than her. You know, teachers will sometimes say, "they are different you know"--I don't like the way the way they are acting, their

music, the way they talk. Some teachers treat other students, like different.

Researcher: How does a teacher treat other students differently that you have seen?

Thai female: I seen some. I mean you can just kind of tell. There are some teachers but not a lot. There are some. You can just tell by the way you are treated, she may have something against you. I have one teacher who treats me differently because of my background, or I think she does (interview, 5/28/92).

Episode 2:

African American female: I wish we could have, like, oral tests. I mean that would be so more fair. I mean, everybody would have a fair chance because, I think it would be better. I hate major tests. It is frustrating.

Romanian male: Oral tests; like she said. It is more easier (interview, 5/21/92).

Episode 3:

Thai female: I expect the teacher, I don't know, know a lot about science. Cause if we ask him a question off the subject he can answer it and it is still science. For example, if we are studying the star we can ask him a question and he can still answer it (interview, 4/30/92).

Episode 4:

Researcher: Does the school support you being different?

Half Korean American female: Most definitely. I have got to be different. I do not want to be like everyone else.

Thai female: Yeah, everyone is friendly and everything....I think the school makes an effort for it to be okay being international. Different foods, had an international dinner thing, international club ...ESOL (5/28/92).

Discussion

Science education researchers, such as Charron, who advocate the use of a social-contexts frame of reference for science education research (Charron, 1991), argue that there is a need for depicting the social complexity in which science education takes place in a particular locale. Hallmarks of this type of research is a call to pay close attention to three areas: the role of context, the interactions between contexts, and a valuing of participant perspectives. In this paper, much attention has been given to examine multicultural considerations in the contexts and in the student participant perspectives. Probing for interactions between those areas, while the most speculative, offers the greatest potential for enhanced insights of science teaching and learning conducted in specific contexts.

Two salient patterns emerged from the data that indicate interactions between social milieus and the culturally diverse participant voices investigated in this study.

Assertion One: Schooling in a context historically associated with racism directed toward African-Americans prompted students to value the uniqueness of learning science in a student body characterized by its cultural diversity. In a context that historically promoted

separatism between two ethnic groups, White and African-Americans, students and school personnel viewed the school as a representative multicultural mini-society that would benefit them by preparing them for life outside their present day context. As a result, science teacher decisions that promoted integration and cooperation among different cultural groups, such as the use of cooperative learning groups, were supported by the students. Tensions between teacher or student selection of cooperative group members remained, however. While students valued cultural representation within their groups, they also valued personal choice--as long as defacto segregation did not occur in the cooperative learning groups.

Assertion Two: Schooling in a context historically associated with racism sensitized students to look for science teacher attitudes and actions that they could interpret as discriminatory. Teacher attitudes that indicated prejudice toward any group were perceived by the students and not supported. Those teachers were avoided. Teacher actions such as isolating non-English proficient teachers and giving only extensive written tests that resulted in some students being isolated or receiving low grades also were judged inappropriate by the students.

Conclusion

Multicultural researchers, such as Cherry Banks (Banks, 1993), who examine schools research focusing on restructuring schools for equity, consistently place importance on increasing teacher knowledge. In particular, Banks recommends that teachers be given opportunities for "critical reflection on the social context of teaching and learning" (p.48). One significance of this in-depth social-contextual study of science teaching in a middle school located in the Deep South, is that it gives science teachers in that context an enriched perspective of their work that acknowledges the social complexities that bear on science teaching and

learning with diverse students. Constructing science teaching environments in which diverse students are nurtured to achieve to the fullest of their potential obligates science teachers to critically reflect on factors that affect their teaching and student learning. The challenge is for practicing science teachers to use the insight that comes from this type of research to maintain and institute additional ethical decision-making in their teaching of *all* their students. The hope is that through this process a high-quality science education can be attained in increasingly culturally diverse societies.

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